

General Mathematics (New)

10th (Fresh/Reappear)

ہر سوال کے سامنے چار دائرے دیئے گئے ہیں، صرف صحیح جواب والا دائرہ بھر دیں۔

دائروں کو شیڈ (بھرنے) کے لیے نیلے یا کالے رنگ کا مارکر استعمال کریں۔

جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہو گا۔

Time: 20 Minutes

SECTION-A

Marks

Q1: Choose the correct option i.e, A,B,C or D?

- Radius of hemisphere is 4cm, its volume will be _____.
☐ 162cm³ ☒ 134cm³ ☐ 132cm³ ☐ 130cm³
- C(-1,1), D(2,5) then |CD| = _____.
☐ -1 ☐ 1 ☐ 2 ☒ 5
- $(-6, \sqrt{3})$ lies in which quadrant _____.
☐ I ☒ II ☐ III ☐ IV
- Product of $\begin{bmatrix} 2 & 4 \\ 0 & 1 \end{bmatrix}$ and $\begin{bmatrix} 1 & 3 \\ 0 & 1 \end{bmatrix}$ = _____.
☐ $\begin{bmatrix} 2 & 3 \\ 0 & 1 \end{bmatrix}$ ☐ $\begin{bmatrix} 4 & 3 \\ 1 & 1 \end{bmatrix}$ ☒ $\begin{bmatrix} 2 & 10 \\ 0 & 1 \end{bmatrix}$ ☐ $\begin{bmatrix} 10 & 1 \\ 1 & 1 \end{bmatrix}$
- One side of square is 8.5cm, area of square = _____.
☒ 72.25cm² ☐ 70cm² ☐ 50cm² ☐ None
- A line which touches a circle at just one point is called _____.
☒ Tangent ☐ Secant ☐ Chord ☐ Sector
- The HCF of 12x² and 8x is _____.
☐ 2x ☒ 4x ☐ 8x ☐ 12x
- Perpendicular drawn from vertex of a triangle to its opposite side is called _____.
☐ Median ☐ Angle bisector ☒ Altitude ☐ None
- $(a+b)^2 + (a-b)^2$ = _____.
☐ ab ☐ 4ab ☐ a²+b² ☒ 2(a²+b²)
- P(x) = 4x - 1 then P(-2) is _____.
☐ 4 ☐ -4 ☐ 9 ☒ -9
- Then value of x in $\sqrt{x-5} = 3$ is _____.
☒ 14 ☐ 16 ☐ 20 ☐ 25
- $|x-3| = 0$, then x = _____.
☐ -3 ☒ 3 ☐ 6 ☐ -6
- One root of x² - 5x + 4 = 0 is _____.

- ☐ -4 ☐ -1 ☒ 1 ☐ 0
 14. Determinant of a square matrix is a _____ number.
☒ Real ☐ Imaginary ☐ Both of these ☐ None
 15. Adjoint of $\begin{bmatrix} 3 & 1 \\ 5 & 8 \end{bmatrix}$.
☐ $\begin{bmatrix} 3 & 5 \\ 1 & 8 \end{bmatrix}$ ☐ $\begin{bmatrix} 5 & 8 \\ 3 & 1 \end{bmatrix}$ ☒ $\begin{bmatrix} 8 & -1 \\ -5 & 3 \end{bmatrix}$ ☐ $\begin{bmatrix} -3 & 5 \\ 1 & -8 \end{bmatrix}$

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Note: Time allowed for Section-B & Section-C is 2:40 hours.

SECTION-B

Marks: 36

Q2: Attempt any NINE parts. Each part carries FOUR marks.

- Find the value of $x^3 + 2xyz + z^3$ at $x=2, z=3, y=4$ and $x=4, z=2, y=3$.
- Rationalize $\frac{1}{\sqrt{5} + \sqrt{3}}$.
- Factorize $x^8 + x^4 + 1$.
- Find the LCM by factorization method $x+y, x^2 - y^2$.
- Simplify $\frac{a^3 - b^3}{a^4 - b^4} \div \frac{a^2 + ab + b^2}{a^2 + b^2}$.
- Solve $\left| \frac{3x-2}{5} \right| = 7$.
- Solve by using quadratic formula $3x^2 + 5x - 8 = 0$.
- Find the inverse by using adjoint method $A = \begin{bmatrix} 4 & -3 \\ 2 & 1 \end{bmatrix}$.
- Find the supplement of the given angles: (a) 78° (b) 114° .
- Construct a rectangle PQRS, $\overline{mPQ} = 5\text{cm}$ and $\overline{mPR} = 6\text{cm}$.
- Find the area of a triangle when base=09cm and altitude=12cm.
- Find the volume of cylindrical tin with radius 4cm and height 10cm.

SECTION-C

Marks: 24

Note: Attempt any THREE questions. All question carry equal marks.

- QIII: Use factor theorem to prove that $x-3$, is a factor of $x^3 - x^2 - 5x - 3$. Find also the other factors.
- QIV: Solve the system of equation using Cramer's rule $2x - y = 0$, $x + y = 15$
- QV: Construct a triangle KLM and draw their angle bisectors. $\overline{mKM} = 5.8\text{cm}$, $m\angle K = 45^\circ$ and $m\angle M = 75^\circ$.
- QVI: Show that the point A(-4,-3), B(1,4) and C(6,11) are collinear.